

Art Unit: 2636

CLMPTO

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Claims 1-16 (cancelled)

17. A device for controlling correct hooking of two sheet pile locks, wherein the first lock comprises a locking chamber into which a complementary lock part of said second lock penetrates, comprising:

a detector arranged in said locking chamber of said first lock in such a manner that when the two locks are correctly hooked, said complementary lock part of said second lock shears said detector; and

an electric circuit for determining that said detector has been sheared, comprising a circuitry, which presents a first impedance value prior to said shearing of said detector and a second impedance value after said shearing of said detector, wherein the two impedance values differ substantially from the impedance value of a short circuit respectively of an interruption of said electric circuit outside of said circuitry.

18. The device as claimed in claim 17, wherein:

said detector comprises one end made from a ferro-magnetic material which is arranged in said locking chamber of said first lock in such a manner that when said two locks are correctly hooked, it is detached from the remainder of said detector by the complementary lock part of the second lock, and

the circuitry in the remainder of the detector comprises an inductive switch element of which the inductivity is altered by the detachment of the ferro-magnetic end.

19. The device as claimed in claim 17, wherein:

said detector comprises one end with a permanent magnet, which is arranged in the locking chamber of said first lock, in such a manner that when said two locks are correctly hooked, it is sheared off from the remainder of the detector by the complementary lock part of said second lock, and

said electric circuit in the remainder of the detector comprises circuitry which responds to a change in the magnetic field which is caused by the shearing off of the permanent magnet.

20. The device as claimed in claim 19, wherein said circuitry that responds to the change in the magnetic field comprises a magnetically actuated microswitch with parallel resistor and series resistor.

21. The device as claimed in claim 17, wherein:

said detector comprises one end which is arranged in said locking chamber of

the first lock in such a manner that when the two locks are correctly hooked, it is sheared off from the remainder of the detector by the complementary lock part of said second lock, and
said electric circuit comprises a resistor circuitry which comprises a terminating resistor in the end to be sheared off of said detector.

22. The device as claimed in claim 21, wherein:

said resistor circuitry in the remainder of said detector comprises a first resistor and a second resistor, wherein said second resistor is connected in series to said terminating resistor and said first resistor is connected in parallel to the series circuit of terminating resistor and second resistor.

23. The device as claimed in claim 21, further comprising a diode connected directly in series to said resistor circuit in such a manner that a direct current can flow through said resistor circuitry only in one direction.

24. The device as claimed in claim 20, wherein said terminating resistor in said detachable end of said detector and said resistor circuitry in said remainder of said detector are connected to one another via two electrical conductors which form an electrical insulation layer relatively quickly in salt water.

25. The device as claimed in claim 21, wherein:

said resistor circuitry is arranged on a printed circuit board which is subdivided by a perforation,

the terminating resistor is located on the one side and the remainder of the circuitry is located on the other side of the perforation, and

two conductors lead between said bores of said perforation connecting said terminating resistor to the remainder of the circuitry.

26. The device as claimed in claim 25, wherein said two conductors are

fixed to said printed circuit board on both sides of said perforation by soldering eyelets.

27. The device as claimed in claim 17, further comprising an evaluation unit which continuously measures at least one electrical parameter of the electric circuit and displays different states on the basis of the measured values.

28. The device as claimed in claim 27, wherein said evaluation unit comprises an above-ground unit and a below-ground unit, wherein the below-ground unit, which is arranged in the immediate proximity of said detector respectively in said detector itself, comprises an active component group, which continuously measures at least one electrical parameter of said electric circuit, carries out a preliminary evaluation of this measurement and on the basis of this preliminary evaluation sends predetermined signals to said above-ground unit.

29. The device as claimed in claim 27, wherein said evaluation unit measures the resistance value of the circuit and, after the occurrence of a change in resistance, checks this with reference to stability during a predetermined time.

30. The device as claimed in claim 26, wherein said electric circuit of the detector comprises an electrical connecting lead and said evaluation unit comprises at least displays for the following states:

- a) detector is OK
- b) detector has been sheared
- c) connecting lead has been interrupted; and
- d) short circuit in the connecting lead.

31. The device as claimed in claim 30, wherein said evaluation unit comprises additional displays for the following states:

- e) short circuit at the separation point of the detector; and

f) measured resistance is unstable.

32. The device as claimed in claim 17, wherein said detector comprises a body which is subdivided by a predetermined breaking point into a detector base and a detector head, wherein said detector base is attached to said first lock and said detector head projects in an cantilevered manner into said locking chamber of said first lock.